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RCRA, Superfund & EPCRA Hotline Training Module

Introduction to:

**Hazardous Chemical
Inventory Reporting**
(EPCRA §§311/312; 40 CFR Part 370)

Updated February 1998

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RCRA, Superfund & EPCRA Hotline Phone Numbers:

National toll-free (outside of DC area)	(800) 424-9346
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The Hotline is open from 9 am to 6 pm Eastern Time,
Monday through Friday, except for federal holidays.

HAZARDOUS CHEMICAL INVENTORY REPORTING

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1. INTRODUCTION

Working within the framework established by the emergency planning provisions of the Emergency Planning and Community Right-to-Know Act (EPCRA), also known as SARA Title III, the hazardous chemical inventory reporting requirements provide State Emergency Response Commissions (SERCs), Local Emergency Planning Committees (LEPCs), and local fire departments with additional chemical information necessary for community emergency preparedness. The hazardous chemical inventory reporting sections, EPCRA §§311 and 312, require facilities to submit detailed information on the chemicals present on site that require Material Safety Data Sheets (MSDSs). SERCs, LEPCs, and local fire departments can use this information to assist in the development of community emergency plans. The information is also available to the general public, further satisfying communities' right-to-know about chemical use in their neighborhoods.

When you have completed this module, you will be familiar with the purpose, scope, and reporting requirements of §§311 and 312. Specifically, you will be able to:

- Explain the general purpose and scope of EPCRA §§311 and 312
- Identify which facilities and which chemicals are subject to reporting
- Explain what facilities must do to comply with §§311 and 312
- List the five hazard categories used to group hazardous chemicals
- Identify the options facilities have when reporting under §§311 and 312
- Explain the two ways facilities can report mixtures
- Define the de minimis cut-off level and how it applies to mixtures
- Explain how citizens can access the information reported.

Use this list of objectives to check your knowledge of this topic after you complete the training session. The concepts you learn from this module and the subsequent training session will be put to use in a Forms Workshop scheduled later in your training program.

2. REGULATORY SUMMARY

The hazardous chemical inventory reporting provisions outlined in EPCRA §§311 and 312 require facilities to report inventory information on the hazardous chemicals present on site. This inventory contains each hazardous chemical's identity, physical and health hazards, and location. Facilities that meet the criteria found in 40 CFR §370.20 are required to submit reports to the SERC, LEPC, and local fire department. There are two reporting mechanisms in the hazardous chemical inventory program: a one-time notification of the presence of hazardous chemicals on site in excess of threshold levels (EPCRA §311), and an annual notification detailing the locations and hazards associated with the hazardous chemicals found on facility grounds (EPCRA §312). This information is provided to local officials and can help in the development of a community emergency plan. The public has access to all information submitted under EPCRA §§311 and 312 through their SERC and LEPC as discussed in EPCRA §324 (40 CFR §370.30).

2.1 REPORTING CRITERIA

In order to be required to report under EPCRA §§311 and 312, facilities must meet the applicability criteria found in 40 CFR §370.20. Not all facilities with hazardous chemicals on site are required to participate in the program. Applicability for §§311 and 312 is two-fold. First, facilities must be regulated by the Occupational Safety and Health Act's (OSHA) Hazard Communication Standard. Second, facilities must exceed established thresholds for hazardous chemicals on site at any one time.

FACILITIES COVERED

OSHA's Hazard Communication Standard (HCS) requires facilities to procure or prepare material safety data sheets (MSDSs) for the hazardous chemicals found at the facility (29 CFR §1910.1200). In general, the chemicals regulated by OSHA's HCS pose a hazard to workers potentially exposed to the substances (e.g., the substance is reactive or flammable). The MSDS contains important health and safety information. Any facility that is required by OSHA to prepare or have available an MSDS for a hazardous chemical is subject to EPCRA §§311 and 312 if the chemical is present on site at any one time in excess of threshold levels. There is no list of hazardous chemicals subject to reporting. The key to determining whether or not a chemical is considered hazardous is if it meets OSHA's definition of a hazardous chemical in 29 CFR 1910.1200(c).

THRESHOLD LEVELS

Not all facilities storing or using hazardous chemicals pose a significant threat to human health and the environment. To restrict reporting to those facilities whose chemical inventories pose the most substantial risks, EPA developed threshold

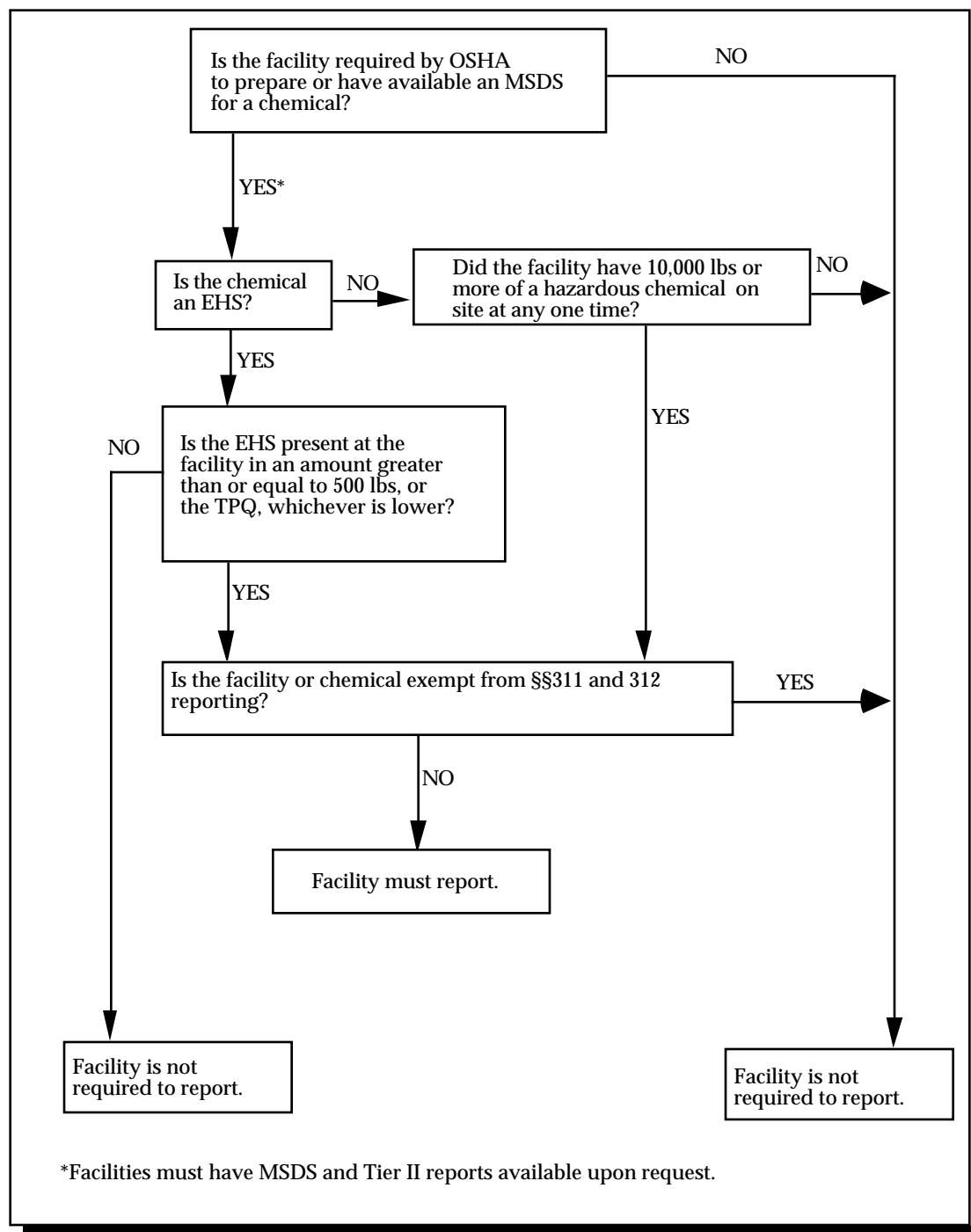
levels for hazardous chemicals that serve as the second trigger for applicability. If the quantity of a hazardous chemical on site equals or exceeds the applicable threshold level at any one time, the facility must report to the SERC, LEPC, and the local fire department.

The threshold level the facility owner/operator must look to varies depending on how the chemical is classified. For hazardous chemicals that are not EHSs, the threshold is 10,000 pounds. The reporting threshold for hazardous chemicals which are EHSs (listed in 40 CFR Part 355, Appendices A and B) is 500 pounds or that chemical's threshold planning quantity (TPQ), whichever is lower. For example, suppose a facility is required by OSHA to have an MSDS for sodium cyanide, that is an EHS and has a TPQ of 100 pounds. Because the TPQ is lower than the default §§311/312 500-pound threshold for EHSs, the facility owner/operator must report this chemical if there was 100 pounds or more on site at any one time. In contrast, if a facility had dichloroethyl ether, an EHS with a TPQ of 10,000 pounds, the facility would defer to the default §§311/312 500-pound threshold for EHSs. The facility owner/operator must report if the quantity equals or exceeds 500 pounds on site at any one time. Figure 1 illustrates the steps a facility owner/operator needs to take to determine if it is required to report under §§311 and 312.

2.2 EXEMPTIONS

The exemptions from §§311 and 312 reporting provide facility owner/operators relief from reporting in a range of situations that are covered under other regulatory programs or are outside the scope of the statute's purpose. There are occasions when a facility meeting §§311/312 applicability may not have to report because either the chemical or the facility is exempt. Chemical exemptions apply only to those specific chemicals that meet the requirements for the exemptions under OSHA or EPCRA, not to the facility itself. Facility exemptions apply to all hazardous chemicals at facilities that are exempt from reporting. There are some similarities between the OSHA and EPCRA exemptions. The exemptions under each statute may appear duplicative, however, due to the different scopes and purposes of the two laws, the interpretation and application of each exemption varies.

Figure 1
DETERMINING APPLICABILITY OF §§311 AND 312



CHEMICAL EXEMPTIONS

Although OSHA requires MSDSs for a tremendous number of chemicals, there are a number of exemptions to the OSHA requirement to maintain MSDSs, subsequently exempting them from §§311 and 312 reporting. Substances that do not require an MSDS are (29 CFR §1910.1200(b)(6)):

- Hazardous wastes as defined in the Solid Waste Disposal Act, when subject to regulations issued under that act
- Tobacco or tobacco products
- Wood or wood products (excluding those treated with a hazardous chemical, which may be subsequently sawed or cut, generating dust)
- Manufactured items ("articles") that are formed to a specific shape or design during manufacture, have end use functions dependent in whole or in part upon the shape or design during end use, and do not release or otherwise result in exposure to a hazardous chemical under normal conditions of use
- Food, drugs, cosmetics, or alcoholic beverages in a retail establishment that are packaged for sale to consumers
- Food, drugs, or cosmetics intended for personal consumption by employees while in the workplace
- Any consumer product or hazardous substance, as defined in the Consumer Product Safety Act, where the employer can demonstrate that use and exposures are the same as experienced by consumers
- Any drug, as defined in the Federal Food, Drug, and Cosmetic Act, when it is in solid, final form for direct administration to the patient (i.e., tablets or pills).

Chemicals found in these forms are either regulated by another act or do not present a hazard to the workers handling these substances. If a chemical is exempt from OSHA's HCS, it is not regulated by EPCRA §§311 and 312. On the other hand, a chemical may be subject to OSHA's HCS, but exempt from EPCRA hazardous chemical inventory reporting requirements due to an EPCRA exemption. Hotline Information Specialists should encourage callers to contact their local OSHA office for interpretations of the HCS exemptions. Callers may also consult OSHA's computerized information system (OCIS) at: www.osha-slc.gov.

EPCRA §311(e) lists five exemptions from the definition of hazardous chemical for purposes of compliance with §§311 and 312, and are codified at 40 CFR §370.2. These exemptions cover chemicals that are either regulated under other programs, do not present a hazard during normal use, are chemicals that the community is already aware of, or are under the control of trained personnel. The exemptions cover:

- Food and Drug Administration (FDA) regulated substances -- any food, food additive, color additive, drug, or cosmetic regulated by FDA
- Solid manufactured items -- any substance present as a solid in any manufactured item to the extent exposure to the substance does not occur under normal conditions of use
- Substances packaged as consumer products -- any substance to the extent it is used for personal, family, or household purposes, or is present in the same form and concentration as a product packaged for distribution and use by the general public
- Medical and research lab materials -- any substance, to the extent it is used in a research laboratory or a hospital or other medical facility under the direct supervision of a technically qualified individual
- Substances used in agricultural operations -- any substance to the extent it is used in routine agricultural operations or is a fertilizer held for sale by a retailer to the ultimate customer.

It is important to remember that these exemptions apply to specific chemicals within the scope of the exemption only, not to all hazardous chemicals at a particular facility. EPCRA §§311 and 312 do provide certain exemptions on a facility-wide basis as discussed below.

FACILITY EXEMPTIONS

Since the statutory definition of person does not include the federal government, federally owned and operated facilities are not required by the statute to comply with any section of EPCRA. President Clinton, however, signed Executive Order 12856 on August 3, 1993, that requires federal facilities to comply with EPCRA. Federal facilities with hazardous chemicals above threshold levels were required to meet §311 reporting requirements by August 3, 1994. Federal facilities were required to file Tier II forms, thus complying with EPCRA §312, by March 1, 1995 (and annually thereafter). (Details of this process are provided in the module entitled Interface with Other Federal Regulatory Programs).

State and local governments are not covered by OSHA, and therefore these types of facilities are not subject to §§311 and 312 reporting. While some state and local

governments may be required under state law to have MSDSs for the hazardous chemicals at their facilities, these facilities would not be subject to §§311 and 312 because they are not subject to federal OSHA requirements. Some state and local governments voluntarily comply with EPCRA requirements.

Any facility not covered by OSHA for any reason would be exempt from reporting under §§311 and 312. For example, the mining industry is exempt in most cases because it is regulated by the Mining Safety and Health Administration (MSHA), rather than OSHA. Since mining extraction operations are covered by MSHA, the chemicals used in these operations are not subject to threshold determinations. If the facility conducts additional activities covered by OSHA, such as refining, then these chemicals would be covered under §§311 and 312 (55 FR 30639; July 26, 1990).

TRANSPORTATION EXEMPTION

EPCRA §327 states that SARA Title III does not apply to the transportation, including storage incident to such transportation, of any substance, with the exception of §304 reporting. Therefore, materials being distributed or stored incident to transportation (i.e., under active shipping papers) would not be included in a facility threshold determination under §§311 and 312.

2.3 MSDS AND HAZARDOUS CHEMICAL LIST REPORTING

EPCRA §311 requires the submission of a one-time notification identifying the hazardous chemicals present at a facility in amounts equal to or in excess of threshold levels to the SERC, LEPC, and local fire department. To meet the requirements of §311, a facility must submit an MSDS for each hazardous chemical equalling or exceeding a threshold. The facility can submit a copy of each MSDS, or submit a list of the hazardous chemicals grouped by hazard category (discussed in Section 2.5). This list must include the hazardous chemical name or common name and any hazardous component of each hazardous chemical, except when reporting by mixture (discussed in Section 2.6). The MSDS or list of chemicals is a one-time submission and there is no required form.

If, after initial reporting, a facility owner/operator finds that it has a hazardous chemical that is newly covered or there has been significant new information on an already reported chemical, the information reported under §311 must be updated. If the facility owner/operator initially reported by MSDS, it can submit a copy of the new or revised MSDS. If a list of chemicals was submitted instead of MSDSs, the facility owner/operator should file a revised list. The new list should include any newly covered hazardous chemical being reported or any changes to the hazard category of a given chemical. A facility must supply this supplemental information within three months after discovery of significant new information (40 CFR §370.21(c)).

2.4 TIER REPORTING

EPCRA §312 requires submission of an annual report providing information on hazardous chemicals on-site to the SERC, LEPC, and local fire department. This report is due every March 1 and covers the previous calendar year. EPA created two types of inventory forms for facilities to use to fulfill this requirement: the Tier I and Tier II. The Tier I form requires facilities to report general information on the amount and location of hazardous chemicals. Tier II forms require more detailed information on each hazardous chemical. Facilities use the Tier II form to report chemical-specific information -- the name, chemical abstract service number (CAS), physical and health hazards, inventory amounts, and storage conditions and locations (40 CFR §370.25). Facilities may submit a Tier II in lieu of a Tier I.

While federal regulations only require the submission of a Tier I form, EPA encourages, and some states require, the use of the Tier II form. States may also have lower thresholds that trigger Tier reporting. States may impose fees for processing Tier forms or even have their own forms that facilities must use to fulfill §312 requirements. Information Specialists should always refer callers to the appropriate SERC to determine which form the state requires.

EPA distributes an electronic version of the Tier II form in both Windows and DOS formats. Not all states have the capabilities to receive Tier II information electronically. As such, callers should check with their state EPCRA §§311/312 contact for individual state information.

2.5 HAZARD CATEGORIES

EPA has identified five hazard categories that are used in both §§311 and 312 reporting. Familiarization with these hazard categories is integral to completion of the Tier I and Tier II form. Three of the categories denote physical hazards: fire hazard, sudden release of pressure, and reactivity. The other two categories are health related: immediate (acute) health hazard and delayed (chronic) health hazard. These should not be confused with the 23 categories established under OSHA's Hazard Communication Standard, which often are noted on an MSDS. Figure 2 compares the Title III categories with some HCS categories. This table is not all inclusive of OSHA's categories so a facility may have to seek more information from another source.

Figure 2
HAZARDOUS CATEGORY COMPARISON
FOR REPORTING UNDER EPCRA §§311 AND 312

EPA's Hazard Categories	OSHA's Hazard Categories
Fire Hazard	Flammable Combustible Liquid Pyrophoric Oxidizer
Sudden Release of Pressure	Explosive Compressed Gas
Reactivity	Unstable Reactive Organic Peroxide Water Reactive
Immediate (Acute) Health Hazard	Highly Toxic Toxic Irritant Sensitizer Corrosive Other hazardous chemicals with an adverse effect with short-term exposure
Delayed (Chronic) Health Hazard	Carcinogens Other hazardous chemicals with an adverse effect with long-term exposure

2.6 GENERIC REPORTING

Some companies with many similar facilities have employed the use of what is known as "generic reporting." To do this, the parent company constructs a generic or master list of chemicals subject to reporting. A given facility will then edit the list by deleting chemicals that it does not have above the threshold amounts or by adding reportable chemicals that are unique to that facility. The facility would be in compliance with §311 if the list is sent to the appropriate agencies after it is edited. If many facilities within an organization are identical (e.g., convenience stores or gas stations), the parent company may construct a Tier II form that reflects the presence of the hazardous chemicals at all of the facilities. This generic Tier II is then sent to the appropriate agencies along with a list of the facilities to which it applies. In this way, a SERC might receive a Tier II form and a list of 20 facilities it covers, rather

than 20 identical copies of a Tier II form. In either case, as long as the appropriate agencies receive the required information, the facility or facilities would be in compliance with §312.

2.7 MIXTURES

A mixture is a combination of two or more different substances, each retaining its own chemical identity. Facilities may have mixtures containing EHSs or hazardous chemicals. The owner or operator of a facility can choose to report all the components of a mixture separately or report the mixture as a whole (e.g., if the composition of a mixture is unknown) (40 CFR §370.28(a)). For example, if a facility has a mixture that is 50 percent nickel and the maximum quantity on site is 10,500 pounds, it could report for the mixture since it exceeds the threshold, or it could choose to report for the components. Since the nickel in the mixture is only 5,250 pounds, the facility would not have to report for nickel. If a facility chooses to apply the reporting threshold to each hazardous component in a mixture, the facility is required to aggregate all quantities of the hazardous chemical at the facility to determine if it exceeds thresholds.

However, if EHSs are components of a mixture, the quantity of the EHS in each mixture, and all other quantities of the EHS, must be aggregated to determine if a threshold has been reached (55 FR 30640; July 26, 1990). Suppose a facility has two different mixtures that both contain 50 percent bromine. If the weight of the first mixture is 100 pounds and the second is 500 pounds, the facility would need to add the 50 pounds of bromine from the first to the 250 pounds of bromine in the second to determine if it exceeds the threshold for bromine.

Whichever option the facility uses, the reporting of mixtures must be consistent for both §§311 and 312 reporting, where practicable. If a facility reports on mixtures as a whole in §311, it must do the same in §312 (where practicable).

DE MINIMIS

In order to reduce the regulatory burden on facilities, EPA promulgated a de minimis exemption for hazardous chemical inventory reporting. The exemption found at 40 CFR §370.28(b) excludes facilities that have very small, or de minimis quantities of hazardous chemicals or extremely hazardous substances in mixtures.

Mixtures that contain hazardous chemicals or EHSs below the de minimis level need not be counted toward the threshold. There are two different de minimis levels established: 1 percent for noncarcinogens and 0.1 percent for carcinogens. If a hazardous chemical exists in concentrations of one percent or less by weight, it does not need to be counted in determining threshold applicability. Similarly, if the chemical is a carcinogen, concentrations of 0.1 percent by weight or less are considered de minimis, and therefore do not need to be counted towards thresholds.

3. HISTORICAL DEVELOPMENT OF THE EPCRA §§311/312 PROGRAM

A historical perspective may help to understand the EPCRA §§311/312 program more thoroughly. The history of hazardous chemical inventory reporting revolves around two main developments: changes to OSHA regulations and proposed changes to EPCRA regulations.

3.1 OSHA EXPANSION

Changes in OSHA regulations have affected the universe of facilities covered by §§311 and 312. When the EPCRA regulations were initially promulgated on October 15, 1987, only manufacturers (i.e., facilities in Standard Industrial Classification (SIC) codes 20-39) were required to have MSDSs under OSHA's HCS, thus only manufacturers could be subject to §§311 and 312. In June 1988, OSHA expanded the facilities subject to the HCS to include nonmanufacturers, with the exception of the construction industry. OSHA began regulating the construction industry under HCS on January 30, 1989.

3.2 EPCRA THRESHOLD LEVELS

Beginning in 1987, EPA proposed a three-year phase-in program to gradually lower threshold levels and thereby expand the reach of the EPCRA §§311 and 312 reporting requirements. For reporting years 1987 and 1988, thresholds of 10,000 pounds, and 500 pounds or the TPQ for EHSs, were established. For the third reporting year, 1989, EPA proposed a threshold of 0 pounds. In the October 12, 1989, Federal Register (57 FR 41904), however, the Agency published an interim final rule keeping the thresholds at 10,000 pounds, and 500 pounds or the TPQ, whichever is lower, for EHSs, for the 1989 reporting year. The Agency finalized the originally established thresholds in the July 26, 1990, Federal Register (55 FR 30632) based on the decision that the massive number of forms and reporting data that a lower threshold would create was not feasible for state and local governments to handle. Despite proposals to the contrary, the reporting thresholds have essentially remained unchanged since reporting began in 1987.

4. COMMUNITY ACCESS TO INFORMATION

EPCRA §324 requires SERCs and LEPCs to make all MSDSs, lists, and inventory forms that are submitted under §§311 and 312 available to the public. Citizens can request this information during normal working hours from either the SERC or the LEPC. In most cases, the LEPC is the best source of information for specific communities. Citizens may request an MSDS for any hazardous chemical present at a facility through the LEPC. If the LEPC does not have the MSDS, the LEPC must request it from the facility, and the facility has 30 days to respond.

Tier II information is also readily available to the public for chemicals at or above thresholds. If a member of the general public requests Tier II information not held by the LEPC because the chemical is below threshold levels, the request must be accompanied by a written statement explaining the need for the information. The SERC and/or LEPC will decide if there is sufficient need based on its own criteria. If the SERC/LEPC determines that there is sufficient need for the information, the LEPC will request the information from the facility. The facility has 30 days to respond to this request (52 FR 38354; October 15, 1987). The Hotline maintains a list of SERCs for referral purposes to facilitate a caller's desire to access hazardous chemical inventory information.

5. MODULE SUMMARY

EPCRA §§311 and 312 apply to any facility that has certain amounts of OSHA hazardous chemicals or EHSs on site at any one time. A facility is required to report the presence of these chemicals. To determine if a facility is subject to §§311 and 312, three basic steps should be followed. First, determine if the facility is covered by OSHA (remember, state and local governments are not covered by OSHA regulations and therefore are not subject to §§311 and 312). Second, determine which chemicals are covered by the OSHA MSDS requirements and consider the five Title III exemptions. Finally, report any chemicals which equal or exceed 10,000 pounds at any one time, unless they are EHSs. EHSs are reportable when they exceed a lower threshold of 500 pounds or the listed TPQ, whichever is lower. This inventory of information is submitted to state and local agencies which then use it for community emergency planning and awareness.